



"A Federal Resource"

PROGRAMMATIC OVERVIEW

DOE OFFICE OF ENVIRONMENTAL MANAGEMENT

EML supports the DOE Office of Environmental Management (EM) through: (1) acting as a federal technical lead, (2) providing performance testing, and (3) supporting field surveys.

Descriptions

As federal technical experts, EML supports EM in the Characterization, Monitoring and Sensor Technology Crosscutting Program (CMST-CP) activities as Project Facilitators and as the Focus Area Lead for Deactivation and Decommissioning.

EML contributes its technical expertise to EM by assessing proposals, monitoring project progress, evaluating project products, and coordinating the implementation of the technology among the contractor, regulator and program office.

EML represents EM as the Technical Program Manager for the Site Characterization and Contaminant Transport Focus Area of the Joint Coordinating Committee on Environmental Management (JCCEM) collaboratively studying with Russian and American scientists contaminant migration in groundwater.

EML provides support to EM and its contractor staff in planning and conducting surveys to characterize radioactive contamination and to certify that release criteria have been met. As a non-contractor DOE Laboratory, EML serves as an important technical interface between DOE site personnel and the contractors who are engaged in survey programs.

EML has specialized calibration facilities for environmental radiation and radioactivity measuring instruments to support EM site cleanup including:

- beam and panoramic irradiators for TLDs;
- a calibration bench providing a precise geometry for shadow shielding and angular response measurements of pressurized chambers (PICs), and for energy and angular response measurements of *in situ* germanium detectors;
- an environmental chamber for testing air samplers; and
- a low background vault for testing detectors or storing dosimeters

Activities and Accomplishments

- **Provides**, free of charge and without prejudice, a "RADIATION & RADIO-ACTIVITY MEASUREMENT HOTLINE" on an ad hoc basis by which advice and consultation are provided to those who inquire.
- **Participated** in workshops to develop the "State of Knowledge of the Vadose Zone" book.
- **Participated** in radiation monitoring and field and laboratory measurements of radionuclides in surface and sub-surface soils of the Building 650 Sump Outfall Area at BNL.
- **Assisted** BNL with an oversight review of the data usability guidance and reviewed contractors' data validation reports for the Operable Unit V Remedial Investigation.



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Activities and Accomplishments (con't)

- **Reviewed** the technology of Kabis groundwater samplers and provided guidance concerning their deployment at the Hanford site.
- **Partnered** with Fernald Environmental Management Project and Brookhaven National Laboratory on two Accelerated Site Technology Deployment (ASTD) proposals.
- **Provided** consultation to contractors at Rocky Flats Environmental Technology Site on *in situ* and laboratory-based spectrometric measurements.
- **Conducts** planning workshops, leads field expeditions and represents EM-50 at various national and international planning and policy meetings as the Technical Program Manager for the JCCEM.
- **Participates** as a member of the Real Time Measurement Work Group at the Fernald Environmental Management Project (FEMP) to gain regulatory acceptance of *in situ* gamma-ray spectrometry.
- **Characterized** the size distribution of ambient aerosol radioactivity at FEMP and is developing specialized low noise air sampling equipment.
- **Provides** consultation and technical assistance in transport modeling to support the groundwater cleanup program at FEMP.
- **Provides** guidance on measurement and survey planning to Ames Laboratory for the remediation of the Wilhelm Hall site.
- **Staged** an intercomparison of *in situ* gamma-ray spectrometers for radionuclide measurements involving manufacturers, regulators and users.
- **Prepared** and validated for FEMP a large bulk site specific QC soil sample as well as a 70 lb. homogenized soil sample to be used for treatability studies related to long-term storage issues.
- **Reviewed** and evaluated the technical specifications for the PCB module and reviewed the computerization of the data validation module of the Contaminant Analysis Automation (CAA) system.

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